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March 20, 1996

William F. Caton
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Errata to the **Ex Parte** Notification of the Personal Communications Industry Association of March 12, 1996
CC Docket No. 95-116

Dear Mr. Caton:

The Personal Communications Industry Association ("PCIA") submitted a written **ex parte** presentation on March 12, 1996 in response to several questions from the Commission's staff. This **ex parte** contained a typographic error that, while minor, is potentially confusing. Specifically, the third line of the second paragraph under Section 1 should read "wireline" rather than "wireless." A corrected copy of the presentation is attached hereto.

Please direct any questions to the undersigned.

Respectfully submitted,

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Federal Communications Commission
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Re: Ex Parte Communication in CC Docket No. 95-116

Dear Mr. Caton:

The Personal Communications Industry Association ("PCIA") is submitting this written ex parte presentation in response to several questions from the Commission's staff. In its comments and reply comments in this proceeding, PCIA urged the Commission to take a leadership role in developing national number portability policies. PCIA also recommended against adoption of interim portability measures as wasteful of resources, and particularly noted that the technical characteristics of interim number portability may degrade the quality of service and be uneconomical for paging and messaging systems, where vigorous competition renders interim portability unnecessary in any event. This submission focuses on the issues solely from the perspective of broadband services. We are continuing to process feedback from our narrowband constituents and will further supplement the record to reflect that input in the near future. The industry appreciates the staff's desire for additional input on this matter.

In its original comments, PCIA suggested that the Commission focus on the implementation of service provider portability, and should defer for now issues of location and service portability. To that end, PCIA stated that the Commission should promulgate national number portability policies and goals while tasking industry bodies to set specific technical standards and allowing states regulatory flexibility. Importantly, PCIA explained that number portability is of considerable competitive importance in the broadband CMRS market, and accordingly, that service provider portability for broadband services should be considered in conjunction with landline portability.

In subsequent discussions with the Commission's staff, several questions were raised regarding the technical and economic hurdles to interim and permanent number portability across the range of broadband and narrowband CMRS offerings. Set forth below are the staff's inquiries and PCIA's responses from the broadband perspective. PCIA notes, however, that it has not been able to fully address all issues raised by some of the questions in the limited time available to respond to the staff's inquiries. PCIA is continuing to solicit input from its members and equipment manufacturers and will provide the Commission with further information as it becomes available.

1. **Why is it impractical and costly to impose interim portability measures on wireless services (broadband and narrowband)?**

Any number portability implementation, whether interim or permanent, is a major network project. In conjunction with the costs of transitioning between phases, implementing both interim and permanent number portability is likely to require more than twice the labor and costs of implementing only a final solution. Indeed, for each implementation, call delivery must be tested, software translations must be coded and tested, the impact on features must be assessed, and billing interfaces must be addressed. Unfortunately, at the present time, most broadband CMRS licensees are start up companies with limited human and capital resources. Requiring these companies to devote scarce resources to implement interim number portability solutions detracts from their primary focus during the most critical "start up" period of their operations. Faced with the need to build out their networks and meet pent up public demand for their services, broadband carriers are ill-equipped at present to undertake major network revisions.

Another concern is that wireless carriers have not generally been included in portability trials. As a consequence, unlike the wireline carriers that have spent the last year identifying problems associated with implementing number portability, wireless carriers have not been involved in any tests or trials. Therefore, there could be implementation issues specific to wireless which have not been identified, much less addressed. Moreover, the impact of implementing multiple solutions in a single switch have not been addressed. For example, one member noted that if it was required to implement RCF for upstate New York, CPC for Manhattan, and LRN for Connecticut, its switching deployment plan must be capable of handling the resulting network configuration(s). This is likely to result in network

inefficiencies and complications yet to be defined, as well as significant increases in switching software, memory, and processing costs.

2. **Why is it that a single wireless switch cannot handle remote call forwarding across NPA boundaries, but a single CLEC switch can do so?**

Initial feedback from members indicates that, at least during the start up phases, it may be impractical for broadband carriers to maintain a point of interconnection within each NPA, which appears to be a prerequisite for RCF across NPA boundaries. PCIA is continuing to seek further input from its members and switch manufacturers on this issue.

3. **What would it take to implement interim portability, compared to permanent portability? Why does PCIA assert that permanent portability would be less expensive and quicker to implement? What are the specific technical problems associated with interim and permanent portability, and how do the costs compare?**

Many of the reasons for implementing only a permanent number portability solution were detailed in response to question 1, supra. In addition, LRN as a permanent solution would be quicker and less expensive to implement because most broadband carriers have existing plans to deploy the necessary components for the service. The three things needed to implement LRN have been identified as: (i) SS7 signaling; (ii) AIN/IN to do database queries and responses; and (iii) AIN triggers for a query done indicator, to define the Generic Address Parameter (GAP) as the dialed number, to define the Called Party Number (CdPN) as the Local Routing Number (LRN), and to transfer the dialed number into the Calling Party Number field at the end office for proper use of CLASS features. Because many broadband companies' existing deployment plans include SS7 signaling and AIN/IN database query/response capabilities and because the AIN triggers required to implement LRN are being addressed by Standards groups, it is simpler and move cost effective to implement a permanent number portability solution.

PCIA members also expressed a number of concerns associated with RCF as an interim solution. First, common to both wireline and wireless carriers, is the impact of RCF on CLASS features. Because the Calling Party Number field will not contain the ported number, any CLASS features which are based on the Calling Party Number, like Caller ID, may not function correctly.

Second, members have expressed concerns that are unique to wireless carriers, such as problems with interoperability across a multitude of networks, roaming, billing, fraud, and lawful intercept (wiretapping). Standards groups are only now beginning to address interoperability between PCS and cellular networks, and between PCS carriers with different technologies (GSM, CDMA, TDMA). Because no wireless carriers have participated in implementation trials, even call delivery between PCS and LECs/IXCs has not been tested in a portability environment. Thus, when roaming, 6 digits are currently used to identify the subscriber's Home Location Register (HLR) to complete registration, authentication, and call completion through the correct Visitor Location Register (VRL). In a portability environment, 10 digit translation will be needed to identify the correct HRL for registration, authentication, and call routing to the correct visited location. To avoid the implementation of 10 digit translations for an interim solution, two Signal Transfer Point (STP) nodes would have to be purchased at a cost of between $500K to $1 million. The exact data record exchange requirements for billing in a portability environment also need to be defined and, given the issue of interoperability between various types of networks, the type of billing interfaces which will be required must be addressed. It is also anticipated that RCF may result in some calls being misrouted, especially in a PBX environment, such that the proper billing information cannot be forwarded. This adds to fraud problems and issues. For similar reasons, it is also uncertain whether the required forwarded call information can properly be captured for lawful intercept purposes.

Even for LRN as a permanent solution, the issues of interoperability, roaming, billing, fraud, and lawful intercept must be addressed. With SS7 signaling, AIN/IN query/response, and the proper AIN triggers, however, it will be easier to exchange the proper information to route and bill calls. However, to accomplish number portability implementation using LRN, 10 digit translation and its associated costs will continue to be a requirement. Also, different specifications of LRN in various states may also have a negative impact on wireless carriers. For example, the Illinois draft Generic Switching and Signaling Requirements for Number Portability do <u>not</u> address porting from wireline to wireless or visa versa. Furthermore, it does <u>not</u> address packet switched data. As a competitive differentiation between PCS and cellular services, some PCS providers plan on deploying Short Message Service as part of their initial marketing plans. Exclusion of packet switched data in a portability environment may preclude providers from offering Short Message Service. Not supporting packet

switched data may also preclude PCS providers from offering other wireless data services.

4. When will broadband and narrowband CMRS providers be able to implement a long-term data base solution to portability?

PCIA is still attempting to obtain a more definitive answer to this question from members and switch vendors. PCIA understands, however, that for lower levels of demand, an alternative to RCF as an interim solution for PCS is technically available today. The Ericsson and Nortel switches provide for Dynamic Routing Number (DRN) using a Temporary Location Dialing Number (TLDN). This pool of numbers is used for roaming in a wireless environment today and potentially could be adapted for use in the implementation of the number portability function (analogous to the LRN.

5. What differences exist between cellular, broadband PCS, and SMR, for both interim and long-term portability?

The biggest differentiation between cellular and broadband PCS is the requirement for SS7 signaling and AIN/IN. Generally, broadband PCS providers are planning for these capabilities in their networks. Cellular carriers, however, have a variety of signaling protocols and have not necessarily implemented IN. Thus, cellular carriers would need a transition period to provision their existing networks with these capabilities. PCIA is still seeking further information on other relevant differences between cellular

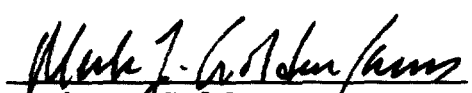
and PCS systems as well as the technical differences of SMR operations.

* * *

PCIA hopes that this response meets the Commission's requirements. Please direct any questions to the undersigned.

Respectfully submitted,

PERSONAL COMMUNICATIONS
INDUSTRY ASSOCIATION

By: 

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